

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington D.C. 20554**

In the Matter of	)	
	)	
Request for Declaratory Ruling By	)	WTB Docket No. 07-121
Wireless Strategies, Inc. Regarding	)	DA 07-2684
Coordination of Microwave Links	)	
Under Part 101 of the Commission's	)	
Rules	)	

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**COMMENTS OF VERIZON<sup>1</sup>**

The Commission should reject the Request for Declaratory Ruling (“Request”) filed by Wireless Strategies, Inc. (“Wireless Strategies”). Wireless Strategies seeks “confirmation” that a “Fixed Service licensee is permitted to simultaneously coordinate multiple links whose transmitter elements collectively comply with the Commission’s antenna standards and frequency coordination procedures.”<sup>2</sup> As further discussed below, the proposed operations described in Wireless Strategies’ Request are inconsistent with the Commission’s rules and licensing policies for the Fixed Services and would increase the risk of harmful interference to other fixed microwave facilities, such as those operated by Verizon.<sup>3</sup> For these reasons, the Commission should dismiss the instant Request and clarify that the proposed use is not permitted in the Fixed Services.

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<sup>1</sup> The Verizon companies participating in this filing (“Verizon”) are the regulated, wholly owned subsidiaries of Verizon Communications Inc.

<sup>2</sup> Wireless Strategies, Inc., Request for Declaratory Ruling on Compliance of Fixed Microwave Antennas Having Distributed Radiating Elements, WTB Docket No. 07-121, at 1 (filed Feb. 27, 2007) (“Request”).

<sup>3</sup> Verizon estimates that its subsidiaries and affiliated companies collectively hold over 4,000 authorizations in the Fixed Services bands. These authorizations are located in 45 states and the District of Columbia.

**I. WIRELESS STRATEGIES FAILS TO DEMONSTRATE THAT THE COMMISSION’S EXISTING RULES PERMIT THE PROPOSED “CONCURRENT COORDINATION” CONCEPT.**

The Commission should reject the Request because Wireless Strategies fails to demonstrate that its proposal is consistent with the Commission’s rules. Although Wireless Strategies alleges that its proposal “conforms to all applicable Commission Rules,” it fails to provide sufficient facts and details to justify a conclusion that its proposal is consistent with the Communications Act and the Commission’s underlying regulations.<sup>4</sup> Indeed, Wireless Strategies includes only a cursory analysis of the Commission’s technical and licensing rules for fixed microwave stations and does not address or provide sufficient details on how various aspects of its proposal are consistent with the existing requirements. Moreover, it is clear that certain aspects of the Request are contrary to existing rules. These issues, however, are never addressed by Wireless Strategies.

Wireless Strategies’ proposal conflicts with both the letter and spirit of the Commission’s Fixed Service licensing and coordination rules. The suggestion by Wireless Strategies that distributed radiating elements (“DREs”) can provide additional communications paths under the primary coordinated facilities and not be fully defined in the station’s license violates the very definition of Fixed Service. Part 2 of the Commission’s Rules defines Fixed Service as “a radiocommunication service between *specified* fixed points.”<sup>5</sup> Similarly, Part 101 of the

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<sup>4</sup> The Commission has previously refused to issue declaratory rulings when the requesting party fails to “provide[] specific evidence” and there is an “absence of clearly developed facts” that support the declaratory ruling. *Competitive Telecommunications Ass.; Pet. For Declaratory Ruling and Cease and Desist Order Concerning Blocking of Interim 800 Service Interexchange Access*, Memorandum Opinion and Order, 4 FCC Rcd 5364, ¶ 7 (1989); *see also Communique Telecommunications, Inc. d/b/a LOGICALL*, Declaratory Ruling and Order, 10 FCC Rcd 10399, ¶¶ 33-34 (1995); *American Network, Inc. Petition for Declaratory Ruling Concerning Backbilling of Access Charges*, Order, 4 FCC Rcd 550, ¶ 17-18 (1989).

<sup>5</sup> 47 C.F.R. § 2.1 (emphasis added).

Commission's Rules defines private operational fixed point-to-point microwave service as a radio service that provides for communications between two or more "*designated*" points.<sup>6</sup> The language of these rule provisions – and the Commission's long-standing interpretation of them in the fixed microwave licensing process – make clear that the transmitting and receive points of each microwave path must be identified and submitted to the Commission for approval before a license can be granted. Wireless Strategies' proposed operation is incompatible with the fundamental definitions of Fixed Service, and the Request does not provide any explanation of how it could be compatible.

The Commission's rules require microwave applicants to provide detailed descriptions of all transmitting and receive facilities. In order for Wireless Strategies' proposal to be consistent, an applicant would therefore be required to provide separate detailed descriptions for its main transmitting site and each "subscriber end" site.<sup>7</sup> Specifically, the Commission's rules and requisite application form require that the applicant detail:

Transmitting station coordinates.

Transmitting equipment, its stability, effective isotropic radiated power, emission designator, and type of modulation (digital).

Transmitting antenna(s), model, gain, and, if required, a radiation pattern provided or certified by the manufacturer.

Transmitting antenna center line height(s) above ground level and ground elevation above mean sea level.

Receiving station coordinates.

Receiving antenna(s), model, gain, and, if required, a radiation pattern provided or certified by the manufacturer.

Receiving antenna center line height(s) above ground level and ground elevation above mean sea level.

Path azimuth and distance.<sup>8</sup>

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<sup>6</sup> 47 C.F.R. § 101.3 (emphasis added).

<sup>7</sup> See Verizon's Petition to Deny or, Alternatively, to Impose Conditions on Applications of Wireless Strategies, Inc., File Nos. 0002925444, 0002925448, 0002925450, at 4-5 (2007) ("Petition to Deny").

<sup>8</sup> See 47 C.F.R. § 101.21(e). See also FCC Form 601, Schedule I, Supplements 1-2.

The importance of this information to the technical review and coordination of the application is manifest as the Commission has expressly refused to eliminate the requirement to submit this information with a license application.<sup>9</sup> Thus, the Commission has determined that this specific and detailed technical data is critical to the Commission's authorization decision and defines the boundaries of any license granted.

These application disclosure requirements contradict Wireless Strategies' argument that unspecified "minor" paths within the antenna's side lobes are authorized automatically and need not be individually authorized or coordinated in the station's license. The DREs described in the Request are defined by Wireless Strategies as transceivers. They would, therefore, create new return microwave paths not specified by the main lobe of the transmitter. Under the Commission's rules, each DRE would therefore require individual coordination and licensing.

Coordination is a bilateral process in which the proponent and existing or previously authorized users share data specified in Part 101.103 in order to avoid harmful interference.<sup>10</sup> Successful completion of the required coordination process requires that an applicant's particular operating parameters be distributed to all potentially affected parties. Only through analysis of the specific nature of the proposed operations can a neighboring licensee determine whether or not its system would sustain interference from the proposed use. Wireless Strategies' proposal to allow Fixed Service licensees to utilize DREs that are not separately and fully coordinated

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<sup>9</sup> *Biennial Regulatory Review - Amendment of Parts 0, 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97 & 101 of the Comm'n's Rules to Facilitate the Devel. & Use of the Universal Licensing Sys. in the Wireless Telecomm's Serv.; Amendment of the Amateur Serv. Rules to Authorize Visiting Foreign Amateur Operators to Operate Stations in the United States*, Report & Order, 13 FCC Rcd 21027, ¶¶ 161-162 (1998).

<sup>10</sup> 47 C.F.R. § 101.103(d)(2)(ii).

conflicts with this provision because potentially affected parties would not be sufficiently alerted to the potential for interference from DREs.<sup>11</sup>

Wireless Strategies claims that “smart antennas” would enable a licensee to operate subscriber end transmitter sites without violating the Commission’s rules, but provides no information to demonstrate that that would be the case. Simply invoking a concept such as “smart antennas” does not inherently justify a new interpretation or alteration of existing rules. Such concepts must be carefully defined, studied, and evaluated before they can be considered for application in existing spectrum that supports critical services to millions of people. Indeed, where the Commission has specifically allowed the use of “smart antennas” that create “multiple directional beams, simultaneously or sequentially,” it has imposed several technical restrictions to specify how power and antenna gain are to be calculated across the multiple radiating elements.<sup>12</sup> Part 101 does not include similar provisions. The Commission would need to consider whether such provisions are necessary before it could approve Wireless Strategies’ novel service, which relies so heavily on the performance of these devices.

The Commission recognizes that Wireless Strategies’ Request raises “novel technical issues that require careful consideration and input from other Commission licensees that could be

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<sup>11</sup> Wireless Strategies’ proposal may conflict with other Commission rules as well. For example, it seems unlikely that the additional paths created by the use of DREs would meet the minimum payload capacity and minimum traffic loading requirements specified in Section 101.141(3) of the Commission’s rules or the minimum path length requirements specified in Section 101.143. Consistent with the limited analysis provided throughout its Request, Wireless Strategies fails to address the applicability of these provisions to its proposed operations.

<sup>12</sup> See 47 C.F.R. § 15.247(c). This rule section is applicable to frequency hopping unlicensed devices operating in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands for point-to-point applications.

affected by WSI's Request."<sup>13</sup> This contradicts Wireless Strategies' claim that its proposals are already "fully consistent" with the Commission's rules.<sup>14</sup>

## **II. WIRELESS STRATEGIES' PROPOSED USE COULD SIGNIFICANTLY ALTER THE FUNDAMENTAL USE OF FIXED MICROWAVE SPECTRUM ALLOCATIONS.**

The Commission should reject Wireless Strategies' Request because it is patently inconsistent with the Fixed Services' licensing methodology and the principles underlying it. Today, Fixed Services are used primarily for the transport on a point-to-point basis of critical telecommunications traffic by public safety, private and common carrier licensees. Moreover, the Fixed Services licensing regime – which enables parties to acquire spectrum outside of competitive bidding – is premised on the fact that licensees are not entitled to use anything but the particular location and radiating parameters for which they are specifically authorized.<sup>15</sup>

Wireless Strategies' proposal, however, is inconsistent with these premises. Wireless Strategies appears to plan on using Fixed microwave spectrum to provide commercial services on a point-to-multipoint basis directly to subscribers.<sup>16</sup> Allowing multiple paths to originate from a single specified point would have the effect of allowing a licensee to provide service over

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<sup>13</sup> *Wireless Strategies, Inc., Applications for License to Operate Common Carrier Fixed Point-to-Point Microwave Facilities*, Memorandum Opinion and Order, DA 07-2870, ¶ 8 (2007).

<sup>14</sup> Request at 8.

<sup>15</sup> *See Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Second Report and Order, 9 FCC Rcd 2348, ¶ 43 (1994) (stating that "point-to-point microwave frequencies regulated under Parts 21 and 94 of the Commission's rules will not be subject to competitive bidding").

<sup>16</sup> By allowing licensees to provide commercial services on a point-to-multipoint basis over what has previously been Fixed microwave spectrum, Wireless Strategies' proposal would unacceptably sacrifice the benefits and uses that come from traditional point-to-point services. Allowing licensees to use this spectrum for point-to-multipoint services instead of point-to-point services is particularly problematic and unnecessary given that the Commission already has made available a considerable amount of spectrum for point-to-multipoint services in the 2.5 GHz, 3.6 GHz, 12 GHz, 24 GHz, 27 GHz, 29 GHz, 31 GHz and 39 GHz bands.

a geographic area as opposed to a single path. If approved, this type of operating authority would create incentives for interested operators to expand their “service areas” by specifying excessive transmitter power and to utilize low performance antennas without tight directional characteristics. The coupling of excessively high output power with poor antenna performance would increase the preclusive effect of stations seeking to expand their opportunities to provide concurrently coordinated links. The Commission should not encourage such behavior at a time when the industry is attempting to accommodate the relocation of more than five thousand microwave systems from the 2 GHz spectrum reallocated to Advanced Wireless Services and Mobile Satellite Service.<sup>17</sup>

### **III. WIRELESS STRATEGIES’ PROPOSED OPERATIONS PRESENT A HIGH PROBABILITY OF INTERFERENCE TO OTHER FIXED MICROWAVE USERS.**

The Commission should also reject Wireless Strategies’ Request because there is a high probability that it would lead to substantial interference among Fixed Service licensees. The “concurrent coordination” concept is based on Wireless Strategies’ mistaken impression that:

Spectrum in the areas represented by the transmitter side lobes is presently unused by the licensee. Others attempting to use it would fail in coordination, and if they persisted, would receive or cause interference. In short, this spectrum is wasted.<sup>18</sup>

As Verizon demonstrated in its Petition to Deny<sup>19</sup> and again shows in Attachment A to these Comments, this assertion is incorrect. Because of advances in antenna technology, the Commission has routinely allowed fixed point-to-point stations to be coordinated in the side lobes and even the main lobes of existing stations sharing the same frequencies.

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<sup>17</sup> The FCC’s ULS database shows over 5000 active fixed service records in the 2110-2200 MHz band.

<sup>18</sup> Request at 5.

<sup>19</sup> See Petition to Deny at Attachment 1, *Map of Verizon and Wireless Strategies’ Paths Near BA Tower*.

The following example shows in general how co-channel microwave paths could, under current FCC rules and practice, be coordinated in a given area. That would, however, conflict with Wireless Strategies' concurrent coordination deployment approach.

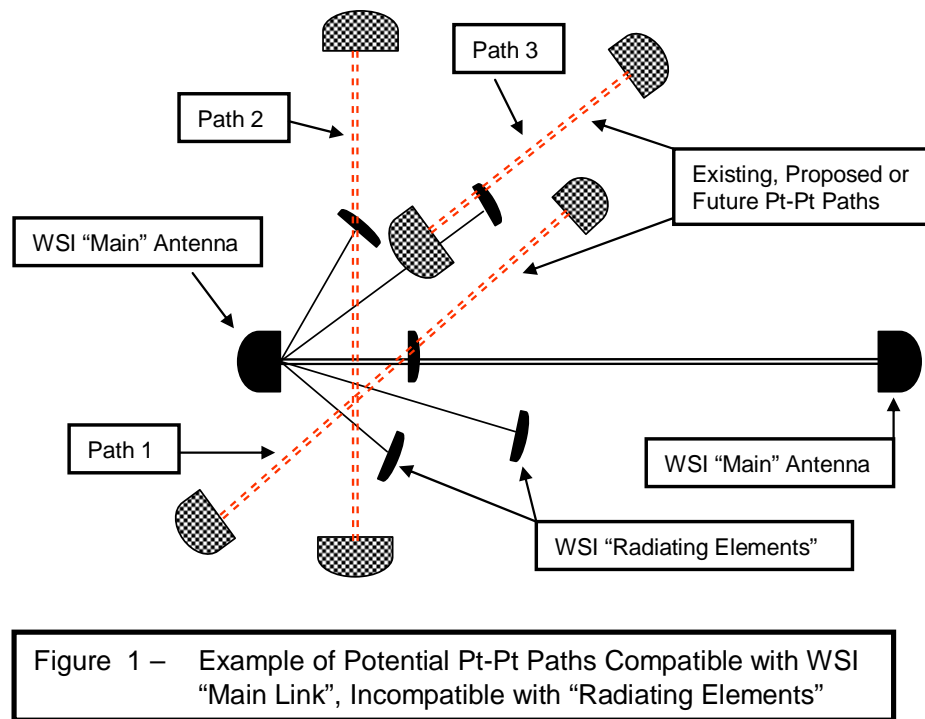


Figure 1 depicts Wireless Strategies' main link and DRE proposal as shown in Figure 4 of its Request. Three example paths are added that, with normal mitigating factors such as antenna discrimination and terrain blockage, could typically share the spectrum with the WSI main link. Because these paths are all bore-sight with the DREs at the subscriber sites, however, they would receive harmful interference from even minimal radiation from the DREs. Thus, these example paths that could be coordinated to operate effectively in the current regulatory environment would be precluded under Wireless Strategies' proposal.

This theoretical analysis can be verified through real-world deployments. Appendix A shows all microwave paths authorized on and successfully sharing the frequency 5945 MHz in the Dallas, Texas area. As shown, several designated receivers are in close proximity to co-channel transmitters. Also, a number of paths cross, sharing common areas where little antenna discrimination exists as illustrated in Figure 1. Allowing the introduction of DREs that do not fully comply with Part 101 fixed station technical requirements and that are at unspecified locations into this congested environment has the potential to create harmful interference to existing Fixed Service licensees. It would also limit future paths from sharing the same spectrum. Without full disclosure of the existence, location and operating characteristics of each individual DRE in both the coordination and licensing processes, the ability of other licensees, future applicants, and the Commission to accurately analyze, predict and investigate interference conflicts will be seriously impaired. In order to continue support of critical services supplied by current and future authorized users, the controlled-interference environment of the Fixed Service point-to-point bands must be maintained. Accordingly, the Commission should reject Wireless Strategies' Request because it would likely lead to unacceptable and unnecessary interference between existing and future Fixed Service point-to-point licensees that are fully authorized to operate, and unspecified and uncoordinated DREs.

#### **IV. CONCLUSION.**

For the foregoing reasons, the Commission should reject Wireless Strategies' Request because it clearly conflicts with the Commission's rules, is inconsistent with the Fixed Services'

licensing methodology, and could cause substantial interference to fixed microwave facilities of surrounding users.

Respectfully submitted,

VERIZON

By: /s/ Leslie V. Owsley  
Leslie V. Owsley  
Assistant General Counsel  
VERIZON  
1515 North Court House Road, Suite 500  
Arlington, VA 22201  
(703) 351-3158

ITS ATTORNEY

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# Attachment A

